August 8, 2019

VIA EMAIL (npwg-19.sec@mcmc.gov.my)

The Chairman
Malaysian Communications and Multimedia Commission (MCMC)
MCMC Tower 1
Jalan Impact, Cyber 6
63000 Cyberjaya
Selangor Darul Ehsan
Malaysia
Attention: **Spectrum Planning Division**

RE: Invitation for feedback on "Public Consultation on Proposed Malaysia's Positions for World Radiocommunication Conference 2019 (WRC-19) Agenda Items"

Facebook, Inc. ("Facebook") is pleased to submit these inputs in response to the MCMC's invitation for written comments from the industry experts, interested parties and members of the public on Malaysia's Positions for WRC-19 Agenda Items in its Public Consultation Document.[1]

Facebook's mission is to give people the power to build community and bring the world closer together. And, connecting people is a critical first step in executing this mission. Today, nearly four billion people are either underconnected or are still not connected to the Internet.

The 2019 Inclusive Internet Index report found that[2]:

- the digital divide appears to be widening at the bottom of the income pyramid, risking a reversal of past progress. The percentage of households connected to the Internet globally increased on average to 54.8% from 53.1%, a modest improvement of 3.1%. However, in low-income nations, Internet connections improved by a mere 0.8% on average. This stands in marked contrast to 2018, when this group saw 65.1% growth.
- Mobile broadband subscriptions are stagnating, and mobile data costs relative to income have increased in nearly half of the countries in the index. Mobile broadband subscriptions per 100 inhabitants grew just 0.3% this year, and in low-income countries subscriptions actually declined.

Facebook launched its own initiatives to work with partners around the world and develop new technologies and specifically focus on bringing more people online to a faster internet[3]. Connecting people—most of whom live in the developing world—is a complicated effort that requires not just bringing network infrastructure to more people, but involves addressing the

[1] Invitation for written comments from industry experts, interested parties and members of the public on Malaysia's Positions for WRC-19 Agenda Items in its Public Consultation Document, https://www.mcmc.gov.my/media/announcements/public-consultation-on-proposed-malaysia%E2%80%99s-positio
[2] https://theinclusiveinternet.eiu.com/assets/external/downloads/3i-executive-summary.pdf
[3] https://connectivity.fb.com/

regulatory environment. Spectrum policy is a key part of the regulatory environment that affects both affordability and availability of the internet. Improving connectivity in Malaysia and around the world means pursuing spectrum policy that maximizes the utilization of this limited resource and promotes the expansion of both the capacity and coverage of wireless networks.

We advocate across the world for spectrum regulations to ensure, embrace and promote:

1. **The availability of an abundant supply of spectrum** to reduce service provider barriers to entry and increase competition and innovation;
2. **The flexible use and sharing of spectrum** to pursue flexible use of spectrum and spectrum sharing across users and platforms, such as mobile, satellite, and new technologies like high-altitude solar aircraft with the goal of significantly increasing spectrum available for broadband.
3. **A balance between licensed and unlicensed spectrum** to support both global harmonized licensed and unlicensed allocations to promote the build out of large and densely populated areas while facilitating low cost broadband access with economies of scale for chipsets and devices.
4. **Network coverage and capacity** to enhance both the capacity of networks as well as expand their coverage to unserved and underserved areas and populations. We believe that this will help
    1. Make buildout requirements effective.
    2. Add use-or-share and secondary license provisions to enable flexible deployment models.
    3. Increase spectrum available for innovative access and backhaul technologies.

We are grateful for the opportunity to provide inputs to MCMC on Malaysia's views and positions for WRC-19 Agenda items. To this end, please find our inputs in the template attached as Annex 1 to this letter.

We believe that Malaysia taking these positions will provide an example for Region 3 and the rest of world of how good spectrum policy supports the connectity agenda. We respectfully remain available to respond to any questions that you may have regarding this submission.

ANNEX 1: Template For Response

No.	Agenda Item	Proposed Malaysia (MLA) Views and Positions
Working Party 1: Land Mobile and Fixed Services		
3.	1.14	The 26 GHz and 28 GHz bands should allow for the possible development of fixed services in these bands, specifically, high altitude platform stations ("HAPS"). HAPS deployed on unmanned solar platforms can be used to facilitate emergency communications links during natural disasters and severe storms like typhoons and to support backhaul for broadband and 5G services. Facebook believes that the 26 GHz and 28 GHz bands can be made available for 5G services, while also being made available for flexible use across platforms. Connecting the unconnected around the world will take a mix of technical solutions across multiple technologies and platforms, including terrestrial, satellite, and HAPS. Facebook believes that HAPS would be well-suited to facilitating critical emergency communications links during natural disasters and severe storms like typhoons. HAPS have the potential to be deployed rapidly during emergencies yet remain in place for long periods of time. A United Nations Broadband Commission report concluded that HAPS to satellite links would be a "valuable alternative" in natural disasters, which "can often overload traditional networks, and ground-based infrastructure is itself vulnerable to damage."[4] Companies are developing solar-powered, high-altitude unmanned fixed wing aircraft to deliver broadband fixed backhaul connectivity to extend the reach of broadband providers' networks.[5] As 5G bands like

[4] United Nations Broadband Commission for Sustainable Development, Report "Working Group on Technologies in Space and the Upper-Atmosphere: Identifying the potential of new communications technologies for sustainable development," (Sep. 2017) at 47, available at http://www.broadbandcommission.org/Documents/publications/WG-Technologies-in-Space-Report2017.pdf. ("UN Broadband Commission Report").

[5] https://www.theguardian.com/technology/2017/jul/02/facebook-drone-aquila-internet-test-flight-arizona. *See also*, UN Broadband Commission Report at 30 ("Developments in aeronautics and radio technologies have made HAPS a viable option to supplement existing network technologies and help bring broadband backhaul to unserved and underserved regions of the world, particularly remote and rural areas of developing countries.").

No.	Agenda Item	Proposed Malaysia (MLA) Views and Positions
		the 26 GHz band and 28 GHz band are built out, more users will enjoy high-speed connectivity and broadband providers will have more traffic to backhaul. 5G will generate more demand for higher broadband speeds and IoT applications in underserved markets. And, within the 5G ecosystem, HAPS can help extend broadband networks with lower cost backhaul without degrading the 5G services. Currently, the International Telecommunication Union (ITU) is studying how to facilitate access to broadband applications delivered via HAPS, such as the unmanned solar plane Facebook is developing.[6] The HAPS WRC-19 agenda item requires the ITU to study possibly modifying the existing identification for HAPS.[7] Facebook has assisted in preparing studies for the ITU-R, which show that HAPS—treated as an application in the terrestrial-fixed service at the ITU—can co-exist with mobile, fixed and fixed satellite in these bands. As MCMC takes a position on Agenda 1.14, we encourage MCMC to revise its view that existing provisions in the Radio Regulations are sufficient for HAPS applications in Malaysia. We believe that MCMC should support a position that promotes new spectrum identifications for HAPS co-primary with other incumbent services (i.e., mobile, satellite, scientific, federal, etc.). This will help maintain the possibility of HAPS use of this spectrum in support of backhaul for emergency communications and 5G applications and services.

[6] See Resolution 160 (WRC-15_ available at https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000C0015PDFE.pdf

[7] Resolution 160 resolves that the ITU-R will study the existing HAPS identification of 27.9-28.2 GHz (paired with 31.0-31.3 GHz) as appropriate 38-39.5 GHz. In addition, in Region 2, the ITU-R will study 21.4-22 GHz and 24.25-27.5 GHz. *See id.*

No.	Agenda Item	Proposed Malaysia (MLA) Views and Positions
Working Party 2: Broadband Applications in the Mobile Service		
5.	1.13	Facebook respectfully objects to Malaysia supporting IMT identification for the 66-71 GHz Band and we believe that there is no need to add an IMT identification in this band. Facebook supports both global harmonized licensed and unlicensed allocations to promote the build out of large and densely populated areas while facilitating low cost broadband access with economies of scale for chipsets and devices in this band. The US, Canada, UK, EU and CEPT have all already decided to make 57-71 GHz License Exempt. We are concerned that an IMT desgination will create uncertainty and possibly fragment the licensing regimes across region, thereby limiting investment in technology to support the band. Facebook is aligned with Wi-FI Alliance's position[8].
6.	1.16	Similarly, we request the MCMC to align with and support the Wi-Fi Alliance positions on 5 and 6 GHz, as filed for this submission[9]. Wi-Fi is an essential on-ramp to the internet. 6 GHz is proximate to the already heavily used 5 GHz bands. • 6 GHz will enable more rapid deployment using existing operator backhaul infrastructure because network coverage areas are essentially the same • 6 GHz is a greenfield band for RLAN devices - it creates opportunities for new disruptive applications while ensuring RLAN devices continue to be backward compatible in the 2.4 GHz and 5 GHz bands

[8] https://www.mcmc.gov.my/skmmgovmy/media/General/pdf/Wi-Fi-Alliance.pdf
[9] https://www.mcmc.gov.my/skmmgovmy/media/General/pdf/Wi-Fi-Alliance.pdf

No.	Agenda Item	Proposed Malaysia (MLA) Views and Positions
Working Party 6: General Issues		
31.	10	Facebook respectfully requests MCMC to support: • the consideration of the development of a regulatory framework for non-GSO FSS satellite systems for feederlink that may operate in the frequency bands 71-76 GHz (space-to-Earth) and 81-86 GHz (Earth-to-space) and • WAS/RLAN between 5 950 MHz and 7 125 MHz